



SEQUENCE LISTING

<110> Kim, Jihyun Francis
Beer, Steven V.

<120> HYPERSENSITIVE RESPONSE ELICITOR FROM ERWINIA AMYLOVORA
AND ITS USE

<130> 19603/3286

<140> 09/596,958

<141> 2000-06-20

<150> 09/120,927

<151> 1998-07-22

<150> 60/055,108

<151> 1997-08-06

<160> 3

<170> PatentIn Ver. 2.1

<210> 1

<211> 1344

<212> DNA

<213> Erwinia amylovora

<400> 1

```
atgtcaattc ttacgcttaa caacaatacc tcgtcctcgc cgggtctgtt ccagtcctggg 60
ggggacaacg ggcttgggtg tcataatgca aattctgcgt tggggcaaca acccatcgat 120
cggcaaacca ttgagcaaat ggctcaatta ttggcggaac tgttaaagtc actgctatcg 180
ccacaatcag gtaatgcggc aaccggagcc ggtggcaatg accagactac aggagttggt 240
aacgctggcg gcctgaacgg acgaaaaggc acagcaggaa cactccgca gtctgacagt 300
cagaacatgc tgagtgatg gggcaacaac gggctggatc aggccatcac gcccgatggc 360
cagggcgggc ggcagatcgg cgataatcct ttactgaaag ccatgctgaa gcttattgca 420
cgcagatggg acggccaaag cgatcagttt ggccaacctg gtacgggcaa caacagtgcc 480
tcttcgggta cttcttcacg tggcggttcc ctttttaacg atctatcagg ggggaaggcc 540
ccttcgggca actccccttc cggcaactac tctcccgta gtaccttct acccccatcc 600
acgccaacgt cccctacctc accgcttgat ttcccttctt ctcccaccaa agcagccggg 660
ggcagcacgc cggttaaccg tcatcctgac cctgttggtg gcgcgggcat cggggccgga 720
aattcgggtg ccttcaccag cgccggcgct aatcagacgg tgctgcatga caccattacc 780
gtgaaagcgg gtcaggtggt tgatggcaaa ggacaaacct tcaccgccgg ttcagaatta 840
ggcgatggcg gccagtctga aaaccagaaa ccgctgttta tactggaaga cggtgccagc 900
ctgaaaaacg tcaccatggg cgacgacggg gcggatggta ttcattctta cggtgatgcc 960
aaaatagaca atctgcacgt caccaacgtg ggtgaggacg cgattaccgt taagccaaac 1020
agcgcgggca aaaaatccca cgttgaaatc actaacagtt ccttcgagca cgcctctgac 1080
aagatcctgc agctgaatgc cgataactaa ctgagcggtg acaacgtgaa ggccaaagac 1140
```

ttgtgtactt ttgtacgcac taacggcggt caacagggtg actgggatct gaatctgagc 1200
 catatcagcg cagaagacgg taagttctcg ttcgttaaaa gcgatagcga ggggctaaac 1260
 gtcaatacca gtgatatctc actgggtgat gttgaaaacc actacaaagt gccgatgtcc 1320
 gccaacctga aggtggctga atga 1344

<210> 2

<211> 447

<212> PRT

<213> *Erwinia amylovora*

<400> 2

Met Ser Ile Leu Thr Leu Asn Asn Asn Thr Ser Ser Ser Pro Gly Leu
 1 5 10 15

Phe Gln Ser Gly Gly Asp Asn Gly Leu Gly Gly His Asn Ala Asn Ser
 20 25 30

Ala Leu Gly Gln Gln Pro Ile Asp Arg Gln Thr Ile Glu Gln Met Ala
 35 40 45

Gln Leu Leu Ala Glu Leu Leu Lys Ser Leu Leu Ser Pro Gln Ser Gly
 50 55 60

Asn Ala Ala Thr Gly Ala Gly Gly Asn Asp Gln Thr Thr Gly Val Gly
 65 70 75 80

Asn Ala Gly Gly Leu Asn Gly Arg Lys Gly Thr Ala Gly Thr Thr Pro
 85 90 95

Gln Ser Asp Ser Gln Asn Met Leu Ser Glu Met Gly Asn Asn Gly Leu
 100 105 110

Asp Gln Ala Ile Thr Pro Asp Gly Gln Gly Gly Gly Gln Ile Gly Asp
 115 120 125

Asn Pro Leu Leu Lys Ala Met Leu Lys Leu Ile Ala Arg Met Met Asp
 130 135 140

Gly Gln Ser Asp Gln Phe Gly Gln Pro Gly Thr Gly Asn Asn Ser Ala
 145 150 155 160

Ser Ser Gly Thr Ser Ser Ser Gly Gly Ser Pro Phe Asn Asp Leu Ser
 165 170 175

Gly Gly Lys Ala Pro Ser Gly Asn Ser Pro Ser Gly Asn Tyr Ser Pro
 180 185 190

Val Ser Thr Phe Ser Pro Pro Ser Thr Pro Thr Ser Pro Thr Ser Pro
 195 200 205

Leu Asp Phe Pro Ser Ser Pro Thr Lys Ala Ala Gly Gly Ser Thr Pro
 210 215 220

Val Thr Asp His Pro Asp Pro Val Gly Ser Ala Gly Ile Gly Ala Gly
 225 230 235 240

Asn Ser Val Ala Phe Thr Ser Ala Gly Ala Asn Gln Thr Val Leu His
 245 250 255

Asp Thr Ile Thr Val Lys Ala Gly Gln Val Phe Asp Gly Lys Gly Gln
 260 265 270

Thr Phe Thr Ala Gly Ser Glu Leu Gly Asp Gly Gly Gln Ser Glu Asn
 275 280 285

Gln Lys Pro Leu Phe Ile Leu Glu Asp Gly Ala Ser Leu Lys Asn Val
 290 295 300

Thr Met Gly Asp Asp Gly Ala Asp Gly Ile His Leu Tyr Gly Asp Ala
 305 310 315 320

Lys Ile Asp Asn Leu His Val Thr Asn Val Gly Glu Asp Ala Ile Thr
 325 330 335

Val Lys Pro Asn Ser Ala Gly Lys Lys Ser His Val Glu Ile Thr Asn
 340 345 350

Ser Ser Phe Glu His Ala Ser Asp Lys Ile Leu Gln Leu Asn Ala Asp
 355 360 365

Thr Asn Leu Ser Val Asp Asn Val Lys Ala Lys Asp Phe Gly Thr Phe
 370 375 380

Val Arg Thr Asn Gly Gly Gln Gln Gly Asn Trp Asp Leu Asn Leu Ser
 385 390 395 400

His Ile Ser Ala Glu Asp Gly Lys Phe Ser Phe Val Lys Ser Asp Ser
 405 410 415

Glu Gly Leu Asn Val Asn Thr Ser Asp Ile Ser Leu Gly Asp Val Glu
 420 425 430

Asn His Tyr Lys Val Pro Met Ser Ala Asn Leu Lys Val Ala Glu
 435 440 445

<210> 3

<211> 31

<212> DNA

<213> *Erwinia amylovora*

<220>

<221> unsure

<222> (8)

<223> n at any position is unknown

<400> 3

cggaaccnnn ncnnnnnnnn nccaactcaa t

31